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BOOK NOTES
"STIMULATING ARTICLES"

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"This Dual Mandate"

Guest Editorial by
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¶ The colleges and universities likely to deal most successfully with the greater numbers of students expected during the next decade will be, I believe, those institutions which effectively hold to the American ideal that in our society each individual shall have his chance, yet which also recognize that the individual will be fairly treated only if the quality of his education remains high. If we are to meet the needs of the individual while at the same time we adjust to the demands of sharply expanded enrollments, four considerations occur to me as of major concern:

- The student needs better ways of finding the particular kind of education he requires and wants. We must provide not only a diversity of educational offerings to meet the needs of the individual student, but also improved counseling services capable of guiding the student to the program that is best for him.
- With increased numbers, there is danger that in the eyes of the student our educational program may seem more automatic, less personal, and less significant. We need to find ways of stimulating the student's interest in the process through which he is going in order that he may have a more genuine sense of participation, of involvement, of self-development. More student self-reliance not only will benefit the student, but also will relieve the faculty of time-consuming routine.
- All of us must remember that our society, with so many human, social and technical problems crying for attention, requires educated men and women who are alert to the problems, sensitive to the need for solving them, possessed of the imagination and ingenuity necessary to determine the nature of the problems and the best way of approaching them, and willing to work diligently in the effort to solve them.
- Our educational process must develop more capacity for cultivating insights and faith among students in the ultimate meaning and purpose of life. The driving force of American society at its best has never been materialism, but rather the ideal of achieving fulfillment of the best that our lives can produce.

Notwithstanding the size of our tasks, I have faith and confidence in our ability to meet this new test of the strength, flexibility and resourcefulness of the American system of public and private education.

Naturally there is concern over the large amounts of money that will be needed if we are to provide the expansion required and also maintain quality. This money must come, in one way or another, from the American people. There is no other source. I believe the American people will provide the funds.

¶ The basis for my faith lies in what the American people have been able to do in the past when they faced crucial issues, recognized the importance of these is-

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sues, and were fully informed about what they needed to do to meet them. Certainly every American parent craves for his child the best educational opportunity that can be had. Certainly every American citizen, no matter how critical he may be of some current educational practices, nevertheless has an abiding belief in the importance of education to the continuing strength and development of our country. It is the mission of all those concerned with educational matters to recognize these attitudes and convictions of the American people, and to see that the people have full information upon which they can reach informed decisions on what they must do in order to have the kind of education they want.

¶ "But," say those worried about the increase in numbers, "even if we get adequate financing through philanthropy or from tax-support, where can we get the facilities and especially how shall we find enough qualified teachers?"

The facilities question, closely related to that of financing, is getting high priority attention from college and university administrators and also from the federal government in its College Housing Loan Program. What the colleges were able to do in the years immediately after World War II, when enrollments doubled in little more than a year, is evidence of what can be done by the American people when the need is sufficiently clear to them.

The expanding demand for quality education of the individual, both in the colleges and in adult education classes, will require many more well qualified faculty members. There will be intense competition for these people, as for well qualified people in all other walks of life. But what is the history of American society when faced with such an issue? The answer is that through innovation and experiment we have found ways to make better use of the talent available. Today American education is alert to the possibilities in new directions such as in the field of educational television, and may be counted on to make the maximum use of every resource for teaching.

¶ Though the problems involved in achieving both quality and quantity in American higher education seem formidable, there is no escaping the issue which has been so well stated in these words by President C. W. de Kiewiet of the University of Rochester: "The true greatness of American higher education is held aloft on the two pillars of quality and quantity. What is sometimes referred to disparagingly as mass education has been compatible with the emergence of graduate, technical, and professional schools that are brilliant in any company. We can do ourselves immense harm by not continuing this dual mandate."

"Need to Jump"

"The movement from unity into multiplicity, between 1200 and 1900, was unbroken in sequence, and rapid in acceleration. Prolonged one generation longer, it would require a new social mind. As though thought were common salt in indefinite solution it must enter a new phase subject to new laws. Thus far, since five or ten thousand years, the mind had successfully reacted, and nothing yet proved that it would fail to react—but it would need to jump." HENRY ADAMS. The Education of Henry Adams. Boston: Houghton Mifflin Co. 1918. Page 498.

Student Ratings of Faculty: A Research Review*

A former contributor to this journal provides timely listing and commentary on studies of student ratings of college teachers and teaching. A University of Michigan psychologist who devotes regular attention to the application of his specialty to teaching, he is the author of "Teaching Tips" a guide book for the beginning college teacher, which is now in its third edition.

By WILBERT J. McKEACHIE

That students should serve as the "experts" in evaluating the effectiveness of their instruction is a relatively new and revolutionary idea in the field of higher education. No one has doubted that students had opinions about the quality of instruction they received, but only within the past three decades have these ideas been systematically gathered. Beginning in the early 1920's, the use of formal faculty evaluation by students has grown until today about 40 per cent of American colleges and universities have used them at one time or another.[17] Numerous articles have been published, arguing for or against the use of student ratings. The research in the area is scattered, however, and those contemplating the use of student ratings may not realize that there are empirical answers to some of the questions they raise. This article reviews these research findings.†

Validity

The validity of student ratings has been the chief bone of contention between those for and those against the use of student ratings. The problem seems to resolve itself into the question, "Validity for what?"

Almost everyone agrees that the aim of teaching is to produce changes in students. Unfortunately, the types of changes desired are seldom clearly defined or measured. The advocates of student ratings make one or both of the following assumptions:

1. One of the desirable outcomes of education is the favorable reaction of students. Stated thus baldly, this assumption seems lacking in idealism, but it might be justified with the argument that interested students are apt to continue their education both in and out of college, and as alumni and citizens to support educational activities in general. Thus, other things being equal, one would rather have satisfied than dissatisfied students.

2. Student ratings of teaching are an index of desired student learning which the teacher or course has produced.

If one accepts as a legitimate educational objective the favorable reaction of students, ratings by students have high face validity. Validation of a teacher scale for this purpose might involve checking the scale against interviews. Differential effectiveness of two instructors teaching the same course might be measured by comparing the numbers of their students who elected further courses in their department. Evaluations of students at the conclusion of a course might be compared with evaluations several months, or even years, later. Drucker and Remmer's research on this point[7] shows that student ratings of instructors correlate well (.40 to .68) with alumni ratings of the same instructors.

The data on validity in terms of the second criterion—student change—will satisfy neither the proponents nor the opponents of student evaluation of teaching.

Students and supervisors agree in their ratings of instructors. Ward, Remmers, and Smalzried[28] found a median correlation of .87 between high school students' ratings and supervisors' ratings of performance in practice teaching. Boardman[4] obtained correlations of approximately .6 between student ratings of teachers and the ratings of fellow teachers and of supervisors.

* This report is partly derived from materials compiled for a research project supported by the Department of Psychology and the College of Literature, Science, and the Arts of the University of Michigan. Mr. Victor Schneider assisted in this project.

† An excellent review by Morsh and Wilder (16) is probably not generally known by college teachers.

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Featuring Articles on College Teaching
Written by College Teachers

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If we could stop with the foregoing data, student ratings might seem to be sound. However, LaDuke [15] and Rostker,[23] using standardized tests to measure how much elementary school pupils learned, found no correlation between supervisors' ratings of teaching effectiveness and pupil gains. Elliott,[8] in a study of 36 college chemistry teachers at Purdue, failed to find a significant correlation between teaching effectiveness as measured by mean student achievement and mean score on the "Purdue Rating Scale for Instructors" ($r = .239 \pm .17$). Ratings on four of the items on the Purdue scale, however, were significantly correlated ($P < 5\%$) with teaching effectiveness. They were:

1 Conduct during laboratory period (actively helpful vs. waits to be asked for assistance).
2 Attitude (liberal or narrow-minded).
3 Educational effectiveness of recitation.
4 Rating as compared to other instructors at Purdue.

One of Elliott's most interesting discoveries was that certain instructors were relatively more effective in stimulating achievement in low-ability students than in high-ability students, while other instructors were more effective with high-ability students. While the overall ratings of these two types of teachers were not significantly different, the teachers who were more effective with high-ability students are rated higher by these students than by low-ability students. Teachers who were more effective with low-ability students are rated higher by those students. These data indicate that what a student has achieved in a course is to some degree reflected in his rating of his instructor.

This conclusion is confirmed by Russell[24] who found that as compared with under-achievers, students who achieved more than would have been predicted in a class rated the course higher on contribution of text to course, fairness of examinations, and fairness of grades. Perhaps one of the reasons ratings of the course tend to be more valid than those of the instructor is that course ratings tend to be lower and more variable.[9]

Student Ratings

What characteristics of students affect their ratings of instructors? Most demographic characteristics make no difference. These include such variables as veteran-non veteran,[21] age,[18] sex,[21] and student's grade in the course[21] (but note Elliott's results cited above). Whether or not a student is a freshman, sophomore, junior, or senior makes little difference in teacher ratings. Graduate students, however, rate teachers higher than do undergraduates.[21]

What characteristics of instructors are related to student ratings of teaching effectiveness? Sex of instructor makes no difference in the student ratings.[21] Rank of instructor is relevant, with associate professors rating higher than other ranks.[8] Instructors possessing only bachelor degrees are rated lower than those having M.A.'s or Ph.D's. Older teachers tend to be rated lower than younger teachers.[22] General severity of grading does not affect overall ratings of instructor although instructors who grade low are more likely to be rated low in the item "Fairness in grading."[12]

One of the more interesting findings is that the instructor's knowledge is not important in determining his effectiveness in student eyes. Neither his knowledge of the subject matter nor his knowledge of correct teaching procedures is reflected in his ratings by students.[8] Moreover, Elliott found a significant *negative* correlation between the instructor's knowledge of the subject he was teaching and student ratings of his effectiveness. However, Riley found that professors with published research were rated higher than those without publications.[22]

What characteristics of the class are related to the students' ratings of their instructor? Student ratings of effectiveness were not correlated with size of class at Brooklyn College,[11] but at Grinnell College classes over 30 were rated lower than smaller classes.[14] Required courses were not rated lower than elective courses at Brooklyn College but were at Grinnell College. Other variables such as subject matter, method, or homogeneity of group have not been studied.

Choosing and Administering a Scale

When a faculty decides to inaugurate a program of student evaluation of instruction, it often fails to make use of the experience of other colleges and universities. For example, the Purdue rating scale[19] has been in use for over twenty years, and its users have available a rich supply of normative data. Similarly, the University of Washington,[20] Miami University,[5] the University of Pittsburgh,[2], Grinnell College,[14] and a number of other institutions have accumulated a good deal of data and experience in connection with their student rating scales.

The advantages of utilizing such accumulated experience should be carefully considered by a

college contemplating student evaluation of faculty. The Grinnell College form uses a forced-choice technique which should reduce bias. Some of the rating scales have been factor analyzed. Creager[6] interprets the two factors he finds in the Purdue scale as (a) Rapport and (b) Professional Impression. These factors are virtually the same as those found by Smalzreid and Remmers,[25] and by Bendig. Bendig,[3] carrying out an inverted factor analysis of Crannell's Miami University scale, obtained three factors. The first of these is characterized at one end by instructors whose classes are interesting, and smoothly controlled, and who have a good sense of humor. The second factor is characterized by instructors whose course material is loosely organized but who have very friendly attitudes toward students and are fair in their assignments. The third factor is characterized by instructors who are rated as being very appreciative of student effort and attractive in appearance but whose examinations are sometimes unfair.

Gibb[10] has developed a teacher behavior scale based on social psychological analyses of leader behavior. He found that his scale was made up of four identifiable factors. Factor I he called "Friendly Democratic Behavior." Factor II is labeled "Communication Behavior" and characterizes the teacher who facilitates exchange of information in the group. Factor III is labeled "Organization Behavior" and characterizes the instructor who is systematic and businesslike. Factor IV is "Academic Emphasis."

There may be reasons, however, for wishing to construct a new scale. Colleges differ in their purposes and the intended uses of student evaluations. Typically, faculty-student committees feel these differences to be important enough to justify construction of a scale specifically designed to fit the local situation. In addition to studying general considerations governing the construction of rating scales, it may be helpful to such committees to list some practical considerations determining the form of the scale.

1 Purposes of the scale

The use of the scale for student evaluation of teaching typically has one or more of the following goals:

a) To make possible comparative judgments of teaching effectiveness of different instructors.
b) To help instructors improve their teaching.
c) To improve student morale.

The first of these goals is probably the most difficult to attain. The validity data previously cited would give one some trepidation about using student evaluations as the basis for promotion or pay increases. In addition, Travers[26] points out the theoretical impossibility of comparing the teaching effectiveness of different instructors teaching different subject matter with different aims.

On the other hand, many colleges feel that teaching effectiveness should be one of the criteria used in determining promotions. Typically, cocktail party anecdotes, complaints of students whose behavior has brought them before some administrator, or colleagues' impressions of the man's personality, are all weighed in some mystical fashion to determine the administrator's judgment of an instructor's teaching effectiveness. Administratively one usually chooses one of three alternatives:

a) To disregard teaching as a factor in evaluating a faculty member's contribution to the college.
b) To evaluate teaching effectiveness informally and subjectively. (What data we have suggest that this method lacks validity.[8 1]).
c) To utilize student ratings.

Obviously we need to develop better methods of comparing teaching effectiveness. In the meantime, many administrators will undoubtedly have to continue to make judgments about teaching effectiveness, and it seems obvious that systematically gathered information might be preferable to the usual hit-and-miss gossip.

2 Faculty morale

The heat of the controversy over student evaluations of faculty probably reflects to some degree the threat which faculty members feel. Because there is little factual data to justify the teaching methods we use, it is small wonder that we fear the impact of any attempt at evaluating them. Most faculty members, however, recognize that student reactions may be helpful in improving teaching, even though one may doubt their validity for inter-instructor comparison. The threat of student ratings may be reduced by permitting no one but the individual instructor to see the results of his ratings, and further, by making the use of student evaluations subject to the instructor's discretion, although this may mean that some of those who need information most will not get it.

In introducing student ratings, wide participation of the faculty in planning the system should be helpful in maintaining faculty morale, if we can generalize from results of research on introducing change in industrial groups.[15]

3 The length of the scale

Obviously the length of the scale depends upon its uses. If the purpose is simply to compare the overall effectiveness of different teachers, little is gained by asking for evaluation of many traits. If the purpose is to aid the teacher in improving his teaching, however, multiple items covering specific characteristics may be necessary. Generally speaking, the length of the scale which a student will fill out carefully is determined by student interest. Students liked an 80 item form which was tried in the general psychology course at the University of Michigan; so we are inclined to believe that the length of the scale should be determined in terms of the use which will be made of it. The number of categories of response per item probably should be inversely related to the number of items, simply because of the multiplication of time required.

4 The selection of items

If the scale for student rating of teaching is to be used for comparisons of faculty members, one probably needs items broad enough to cover a wide variety of subjects and methods and a scale which distributes faculty members over a wide range. The scale should be in a form which can be easily tabulated. In addition, interpretation of ratings should be in terms of norms which are specific enough to control such external factors as whether or not the class has mostly graduate or undergraduate students.

If the purpose of the scale is to improve teaching, fairly specific criticisms and suggestions from the student will probably be most helpful. These could simply be in the form of comments, if the instructor has access to his rating sheets. Most faculty members, however, feel that it is helpful to suggest specific areas, and if the scale is also to include broad items for comparison of instructors, suggesting specific areas gives students a common frame-of-reference in making their overall ratings. Students, too, feel that their ratings would be more meaningful if they were on rather specific characteristics. To combine specific with broad items it may be desirable to devise different specific questions for differing types of courses using only a few broad questions for the entire faculty, although this obviously raises some questions about the comparability of the broad ratings.

In terms of the finding that student ratings are valid for determining the type of student with whom the teacher is most effective, it would seem worthwhile to have a space for students to indicate their grade-point averages. It may be helpful to know if the teacher is rated much higher by the bright students than by the poorer ones or vice versa.

In choosing items for a scale to evaluate teaching effectiveness, one obviously wants to use items which can best discriminate between effective and ineffective instructors. Among the most promising items are those which proved to be most discriminating in the studies by Elliott and Russell cited earlier.

If one wishes to use the items most highly loaded on the two factors found on the Purdue scales, he might choose from the following items measuring "Rapport": "Sympathetic attitude," "Fairness," and "Liberal attitude," and these which measure "Professional Impression": "Interest in Subject," "Presentation of Subject," "Self Reliance," and "Ability to Stimulate Intellectual Curiosity."

A study at the University of Washington[27] analyzed free comments of students about teachers whose teaching effectiveness they were rating. The comments which most significantly differentiated the top-rated teachers from those rated lowest were: (1) "Belittles students," (2) "Dwells upon the obvious," (3) "Has voice inadequacies." A similar study of the Purdue Rating scale[20] found that the best items were: "Presentation of Subject Matter" and "Stimulating Intellectual Curiosity," These items are obvious candidates for inclusion on future scales.[20] Several studies have also been made of what qualities of instructors students and alumni consider most important.[20 22]

There are many other sources of items. One is to ask for student comments about teaching and to analyze these for frequently mentioned characteristics. Faculty members will have ideas about features they would like to have evaluated. Specialists in questionnaire or test construction can be very helpful.

5 The categories of response to each item

It seems logical that students should grade their instructors A, B, C, D just as they are graded, but such rating probably is unduly influenced by the student's own experience with grades. A numerical scale is often used, but students are likely to confuse the ends of a numerical scale, and forget whether "1" is high or low. Faculty members are apt to be deceived by the numbers into looking upon the units as being equal. For these reasons a scale with identifying words seems preferable, and it can still be coded numerically if necessary.

As noted earlier, on items to be used to compare instructors one might wish to provide for a number of categories of response. For diagnostic purposes, however, a simple "yes" or "no" rating is adequate, and is about all that one can expect the students to discriminate. In addition this type of response has the added advantage of being easy to tabulate, and is simple to treat statistically.

Administration of the scale

It seems obvious that students will not respond sincerely if the instructor is able to punish them for their responses. Most colleges ask that the instructor leave the room while the questionnaire is being completed, and the results and comments are typed if the class is so small that handwriting might be identified. If a great deal of identifying data is required on the questionnaire, the students are apt to fear security violations. An interesting sidelight arose in this connection in our University of Michigan evaluations. We asked students to fill in their grade-point average for the previous semester in order to relate grades and ratings. We found later, however, that students who felt real grievances would indicate a very high grade-point average because they felt the criticisms of good students would be considered most carefully.

If the goal of student ratings is to improve student morale, it is probably important that the students feel that the evaluations are being used. While theories of catharsis and comunication are not completely developed, it seems questionable that student evaluation of teaching would improve student morale in a situation in which the evaluations were immediately destroyed, or simply disregarded. Moreover, it seems likely that morale will be most favorably affected if the student has an opportunity to express everything he wants to. This again implies allowing opportunities for free comments.

Discussion

Increased interest in college teaching seems to be reflected in increased demands for ways of

evaluating teaching. In spite of the somewhat spotty evidence on the validity of student evaluations of teaching, their use is increasing. That "feedback" or "knowledge of results" aids learning is a psychological principle of long standing. Used with other "feedback" devices, student evaluations may be of much value to us as teachers. Here is an opportunity "to see ourselves as others see us." Let us use it wisely.

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"Using Yesterday's Proposition as a Premiss"

"As in the classroom, so in interpersonal discussion and in private excogitation, neither the teacher nor the learner is ever absolutely proficient, patient, energetic, alert or concentrated. The instruction may have to be repeated, rephrased, postponed or withdrawn; the recipient's response may be wrong, off the track, faltering and perfunctory. Progress made on one day may on the next day seem to have been completely lost, and protracted bafflement may give place in a moment to forward strides which make the thinker wonder how a task so difficult yesterday was so easy today. Tomorrow, perhaps, he will complain that the results achieved have done nothing but set him further tasks as tough as any that he has yet overcome. He has, perhaps, found out a way of using yesterday's proposition as a premiss; but the conclusion got today must in its turn be turned to some further premissory account. His results are always usable as lessons from which, with skill, work and luck, further results can be got." GILBERT RYLE. The Concept of Mind. New York: Barnes and Noble. 1949. Page 313.

Aims in College Teaching and Learning

As the July twilight faded and lights twinkled on over the university town below, a group of thirty present and would-be college teachers turned attention from the picture windows to the visiting speaker seated at the far end of the room. The opening dinner of the 1956 summer workshop in College and University Teaching sponsored by the graduate school of Oregon State College and the panoramic view of the broad valley had left the company in receptive mood. The speaker—history professor at Stanford (1932-47) and Washington (1947 to date), Cutting traveling fellow, Fulbright scholar, author of "Foundations of American Civilization" and many other books—flicked on a shaded lamp and read the following paper.

By MAX SAVELLE

I propose to focus attention first on the learner and the learning process rather than on the teacher and the teaching process. If we can decide what the aims of the learner and his learning are, then it would seem that our discussion of the aims of college teaching may be properly narrowed to the relatively simple aim of assisting the learner to learn.

For myself, I reject the assumption that the community takes priority over the individual. The civilized individual lives in the community, to be sure, and must be adjusted to it. But that is a matter of expediency, not of principle. In my opinion, the basic principle is, and always must be, that the community is an aggregation of individuals and exists only for the individuals' welfare. If we once accept the proposition that the community's interest transcends, is superior to, and by its nature and of necessity takes priority over that of the individual, we have taken the first step toward that regimentation which is the first and most fundamental principle in the philosophy of the Fascist state.

There can be, it seems to me, no middle ground. Neither democracy nor civilization itself, as we conceive them ideally to be, could long exist after the abandonment of the basic position of the primacy of the individual over society or the state.

That is, of course, not to say that the collective power of the state should never be used to protect any individual member of society from destruction by forces—economic, political, intellectual, or other—over which he has no control or against which he may be unable to defend himself. The point is that the only legitimate use of this collective power must be a use in the service of the individual. Society as a whole, or the body-politic, the state, exists, in the last analysis, only for him.

¶ Very well. I start, then, from the position that the focal point of both learning and teaching is the learner.

But what is a learner? In its simplest terms, the word learner means an individual human mind.

And what is the human mind?

I have never seen an answer to this question that has satisfied me, so—*pace* all psychologists—I am going to attempt an answer. It is a layman's answer, to be sure, but it is also an educator's answer, based upon the findings of the biologists, since the educator must get as close as possible to a scientific concept of the human mind before he can begin to think about educating that mind.

To begin with, I assume "mind" to be the living function of the brain and the nervous system, considered as a unit and functioning as a whole. When the brain is alive, the mind is present in the form of the activity of the brain; when the brain is dead, it is still a brain, but the mind is no longer present.

This activity, that I call the mind, takes place in about four levels or degrees of consciousness. In the lowest level function such wholly automatic and unconscious mental mechanisms as those, for example, which regulate the oxygen content of the blood. Here we find a complex system of nerves and ganglia, with messages sent automatically from the nerve-endings in the blood vessels to the centers controlling respiration and pulse-rate, the consequent increase or decrease of oxygen intake, and, when the oxygen-content of the blood is properly adjusted, a reverse set of messages and controls. All this very complex system of mental automation, involving nerves, ganglia, muscles, and organs, functions without any prompting from conscious thought or control

In the second level lies a whole complex of reactions that are brought into play only as responses to external stimuli. These we may call "reflexes," and I am inclined to lump with them

what some psychologists call "conditioned reflexes." In a general or popular way, perhaps, we might call this the area of "habit," a form of mental behavior that has to be acquired or "learned," but which, once acquired, requires little or no conscious direction.

On the third level of "mind" I place what we may call, for lack of a better name, the "subconscious mind," a mental area that is the source of a whole set of primitive impulses or reactions relative to external circumstances that we may call the emotions. Here, for example, we find the seat of the sex impulse, of anger, of fear, of love, of ambition, and of the impulses to create poetry, music, and art. This is the area of "mind" whence surges up within a man those deep, irrational movements of emotional fullness that he experiences when he beholds a beautiful sunset or loves a beautiful woman or watches his child at play.

Obviously, at this point we are considering an area of the learner's mind which is of incalculable importance, both to the learner himself and to the teacher. For these mechanisms both function unconsciously and, at times, bubble up into the level of consciousness with a power it is often impossible for the individual rationally to control.

Take sex, for example. It seems to be generally accepted that much of the powerful force that draws the sexes together operates at a level that is below that of consciousness. But it forces its way up into the conscious, and it is often so powerful as to control the individual's behavior with a strength in the face of which reason, or intelligence, is powerless. Under the stress of such irrational emotions as love, fear, or anger, the individual's pulse and breathing rates are likely to increase, he is likely to break out into a sweat, to feel ill, or in some other manner manifest the functioning of nervous or mental mechanisms that operate quite below the level of consciousness, although the emotion itself may seem to be entirely in the area of consciousness.

Obviously, out of this still little-known and less-understood level of the human mind spring impulses of great potentiality for human good or evil. Out of the irrational emotions of fear or anger may come murder, or war, or cruelty; yet out of the equally irrational emotions of love or the response to beauty may spring self-sacrifice or mother-love or a brilliant aesthetic creativity.

These forces are not, in the sense of the word that I am using here, rational. Yet they are subject to a certain amount of rational control and direction—direction, that is, by the rational area of the brain, or intelligence.

This leads us to a recognition of the fourth level of the functioning of mind, which is the function known as abstraction and ratiocination; the center and source of which, apparently, is located in the forepart of the brain. This is the area of the mind the function of which is the weighing of various possible courses of behavior, and of conscious choice between them. It is the area of meditation and what we are pleased to call pure thought. It is also, apparently, the area of conscious imagination and creativity, although all these functions seem to draw, as it were, upon the resources of the irrational and emotional.

Now all four of these types of the functions of mind are bound inseparably together. The mind, in other words, functions integrally; it is impossible, even for a moment, to think of one of these levels functioning without the rest, although, as we have already said, the lower levels function without any need, except in cases of emergency, of conscious direction or control.

The important point is that the mind is one. And it would seem to follow that any effort to affect it by a conditioning operation called education must treat it as such.

There was a time when educators concerned themselves only with the highest level of mind, the level of intelligence, or reason. It has now become clear that not only is it impossible to educate the intelligence apart from the emotions; the effort to do so may have, in the long run, the effect of doing more harm than good. Historically, it appears that the failure of eighteenth-century rationalism was in large part due to the fact that it ignored—because it was ignorant of—the powerful role in the determination of human thought and action played by the irrational and emotional elements in the mind.

The biologists tell us several very interesting things about the human mind. The first is that it shares all its functions—or nearly all—with certain other animals; that, in other words, in the long, long, course of biological evolution the brain and its living function—which I call mind—have appeared in many animals. Like other animals, man has evolved this organ and its function as one of the mechanisms of survival. Biologically, the human brain is not very different from those of other animals.

But the second interesting thing that the biologists tell us about man's brain is that, while nearly

all its functions appear, in more or less rudimentary form, in other animals, particularly in the anthropoid apes, man's brain or mind is distinguished by the degree of specialized development that it has reached. This fact is attested by the relative size of the human brain, and especially by the relatively greater development of the frontal lobes.

But the biologists tell us more; for it seems clear, first, that the conscious intelligence in humans exercises a greater degree of control over the other levels of mental activity than in any other animal. Second, it appears clear that, in certain areas, the human intelligence is free to choose among many possible paths of behavior, and that, because of the level of sensitivity that the evolution of the intelligence has reached, at least in some individuals, human beings have achieved a power to create, or invent, new ways of controlling their physical environment or creating new forms of beauty that do not exist in nature itself.

Yet another biological fact about the human mind is that it does not appear to have changed, biologically, in the last ten thousand years. But the human mind has a relatively high degree of ability to store, accumulate and communicate knowledge; with the result that the clear cultural progress through abstraction, invention, and creativity that has been made in the last ten thousand years is largely a product of this cumulative faculty and the transmission of knowledge and culture from one generation to the next. This means a constant process of communication by the older generation and of learning by the younger.

Finally, the biologists tell us that every individual is biologically—and therefore mentally—different from every other individual, and therefore can never be expected—above a very elementary level—to react to a given chain of problems exactly as any other does. It would seem to follow from this that (a) the education of every individual requires a peculiar path of its own (the mould may be used but once, and then it must be broken), and (b) to try to force all individuals into a single educational mould would be both idiotic and criminal—B. T. Skinner, the distinguished Harvard psychologist, to the contrary notwithstanding.[2]

2 This presentation of the biological bases for a discussion of the human mind and its education is drawn from works by Julian Huxley, N. S. Berrell, H. L. Muller, and other biologists.

Human history, in the broadest sense, bears out the findings of the biologists. For history, which begins with the first stone-hatchet, is but the record of the achievements and the mistakes of the human intelligence at work. But we have to recall that many of the most beautiful and spectacular monuments of the human mind—the Pyramids, the Parthenon, the Taj Mahal, or a Gothic Cathedral—are monuments built by the intelligence while driven by deep feeling, by intelligence in the service of emotion. Such, too, is the ultimate evaluation of the wars of history—man destroying man, and using his highest intelligence to do so, almost always as a response to the promptings of some deep, irrational emotion—fear, hate, ambition, nationalism, religion, or love—ironically enough, because man's best intelligence, used here in the service of his emotions, has been not quite good enough to find some other better way of resolving conflict than by human slaughter.

But not all the uses of intelligence have been in the service of irrational emotion. Consider, for example, the ancient irrigation systems of Egypt, Babylonia, India, China, or Mexico; consider the philosophical systems of Confucius, of Plato, of Lucretius, or of Dewey; consider the invention of the wheel, the electric light, or television, or the building of Brooklyn Bridge or Grand Coulee Dam, or the spectacular achievement of atomic fission by William Rutherford in 1919. It is difficult to imagine, on the basis of the historical evidence, that any one of these triumphs of the human intellect was achieved only because some irrational emotion or complex of emotions drove the intellect to do it. Rather, these and thousands of other pieces of historical evidence seem to document beyond question the capacity of the human intelligence to imagine, to plan, and to create new ways for the control of the environment, for the enrichment of human living, and for the elevation of the human spirit.

Furthermore, while many of these monuments of the human mind were erected by groups, working in collective or cooperative fashion, the original concept of the achievement—the original, creative concept—has almost always been, so far as the historical evidence shows, the work of one individual mind. No committee could have written Keats' "Ode to a Nightingale." No commission could have created the philosophy of a Plato or a Dewey. No group "project" ever created a Frank Lloyd Wright church.

In other words, as a generalization, we may say that history, for all its "general trends" and "collective actions," is in the last analysis the record of the behavior of individual men acting under the direction of intelligence—often mistaken or misdirected intelligence, to be sure, but still intelligence.

¶ The first broad principle at which we arrive, then, would seem to be the principle that higher education must, by the very nature of the learner himself, concern itself with the education of the whole man. We may, I think, ignore the mechanical and "conditioned" levels of the mind, on the presumption that they will have received such "education" as may be possible or necessary for them before the learner arrives at the door of the college. But we should recognize that both the learner's emotions and intelligence, on the other hand, and only just reaching their maturity at that moment. It is this degree of maturity, incidentally, that distinguishes the college student from the pupil in the lower schools, and draws the distinguishing line between the aims of higher education and those of the schools.

The first and most obvious need of the learner, as he enters the college doors, is the increase of the quantity of his knowledge. This means, I take it, the transmission to him of the accumulated learning and culture of the race. The college or university, with its library, is the repository of this accumulated learning. Our learner is there to absorb as much of it as he can; it is the function and responsibility of the college and the teacher to provide it for him—chiefly by guiding him, in the library and the laboratory, into ways of learning it for himself. For, in the last analysis, as Alfred North Whitehead has said, "We have to remember that the valuable intellectual development is self-development."[3]

Thus the first answer to our query as to the aims of college and of learning is relatively easy: the first aim of the learner is to acquire the intellectual heritage that is his from his forebears; the aim of the teacher is to show him how to do so.

It is easy to say what the aim should be; it is not so easy to say how the objective is to be attained. What, for example, should the content of this accumulated knowledge and culture be? And should it be the same for all students?

It seems to me that the core of this heritage is to be found by the study of history. Not the study of history in the old sense of political history, nor yet only the history of one's own nation or only that of one's own civilization. Rather, this sort of history is the history of all of human civilization, broadly conceived to include all the major responses, ideological or institutional, that men have devised to meet the challenges they have had to face. This, in turn, would include the major achievements of the human mind in technology, art, literature, music, and philosophy.

This is basic. To fail to provide the learner with as much as possible of the accumulated knowledge and culture of the past is to deprive him of his heritage.

But history is only the cumulative story of how men have met the challenges of the past. And our student, valuable, even essential, as that story may be for his own understanding of himself and his problem, must respond to the challenges of the present and the future. He must know, for example, what men have learned, as of today, about the nature of the physical universe in which he lives. That means physics, astronomy, geology, and chemistry. He should know the nature of life and its functioning, particularly as it exists in man himself. That means biology, and human physiology, anthropology, and psychology. Above all, he should know the nature of society and its institutions and ideologies; and that means cultural anthropology, economics, political science, and sociology.

It is the aim—nay, the necessity—of the student to learn all these things, just in order to live intelligently, or in what we used to call a "well-oriented" fashion. By the same token it is of necessity the aim—it is the duty—of the college to provide it for him and to do everything possible to see that he gets it.

¶ The second aim of the learner is to learn how to use his knowledge. Stated in terms of our biological understanding of the mind, this means a training of the learner's mind in the function of abstraction, conclusion, and decision—in other words, in the function of thinking.

We may well ask, can this function be trained? The answer seems to lie in the demonstrable fact that the learners, or students—most of them—can learn mathematics. In learning higher geometry, for example, there is involved an intellectual exercise in the use of symbols and abstract ideas that is quite distinct from any particular body of facts. For in this area, the corpus of learning that is passed on to the learner is not

[3] Alfred North Whitehead, *The Aims of Education* (New York, the MacMillan Co., 1949), p. 11.

a body of facts, but rather some exercise in the ways and methods of thinking that men have found, through the ages, to be valid. Thus mathematics is a methodical system of thinking. So is logic; so is the discipline of science; so is literary, artistic, or musical criticism; so is historical criticism: each in its own way.

The point is that the learner may be trained to think. It seems clear, indeed, that thinking, defined as the function of considering and arranging evidence, arriving at conclusions, and following paths of action based upon these conclusions, is one of the highest functions, if not the highest, of the mind: it is the function of conscious self-direction. And if it be true that the student can train himself to think, it is one of the functions of the teaching process to assist and direct him in this training.

I should like to emphasize this point. For knowledge alone, or what Whitehead calls "inert ideas," is not enough. Knowledge without the dynamic of thought is useless; thought is the mental activity that gives to knowledge its dynamic quality of being alive.

Surely, as the progress of civilization has brought with it, and continues to bring, an increasingly complex set of circumstances and challenges with which the educated individual has to deal, it is necessary now, as never before, for the individual to be capable of clear and critical thinking. It would seem to follow that the study of philosophy—both its history and its current systems—is necessary to him. But in addition to the study of great systems of ideas themselves—perhaps, indeed, as a preliminary—our learner should be introduced to the various methods of analytical and critical thinking. This means mathematics and logic; it also means historical and literary criticism. But it means, still more, that in every classroom into which he goes the student should be exercised in the critical examination and evaluation of evidence. In an age so flooded with propaganda as ours, the student should not be allowed to go through college and emerge equipped neither to recognize and evaluate the propaganda to which he will inevitably be exposed nor to build up sets of ideas and values of his own upon the basis of which to live a positive and useful life.

¶ At this point, we must face the question of the relationship of the college to the inculcation of so-called "values," which are understood here to be the generalized moral standards by which the learner finds, or does not find, an ethical meaning or direction in his life.

Should the college teach religion, or a comparative study of religions? Should the planners of the college curriculum adopt some set of values and teach those, to the exclusion of all others? Or should they steer entirely clear of the problem and leave the student strictly to find his own way, without help or guidance?

For myself, I can accept neither Professor Maritain's[8] idea of a set of absolute, transcendent, and authoritative values nor his critique of the liberal position. This is not the place to enter into the argument; it must suffice to say that to set up an absolute and authoritative set of values to be accepted uncritically by all men alive, is both a fallacy—since any such set of values must be, and always has been, set up by men themselves—and a denial of the freedom of the individual human mind to solve its own problems and set up its own values. For the biologist has told us that the individual intelligence is free; he has also told us that every individual intellect is genetically different from every other, and therefore incapable of thinking exactly as any other intellect thinks.

The whole of the documented record of history appears to support this position. Evidently, every individual must work out his own set of values. But that does not deny that there is likely to be a reasonably firm consensus in any given society at any given time as to the values that are most significant in that culture and at that time, to which the individual may give a high proportion of his intellectual loyalty. Practically, he may accept the currently accepted ideals of the principles of justice, for example, or if he differs on some points he may still agree on the yet more general principle that the law is the institutionalized expression of the social morality.

The main point here is that the individual who accepts any set of values by reason of authority, and not because he has chosen to give them his loyalty by his own reasoned choice and will, denies his own biological nature and abdicates his own highest moral condition, which is intellectual freedom.

This consideration, perhaps, may offer us the key to the aims of college learning and teaching in the realm of values. For if the liberal posi-

[8] See, for example, Jacques Maritain, *True Humanism* (New York, 1938); *Man and the State* (Chicago, 1951); *Education at the Crossroads* (New Haven, 1943). Compare, however, Charles Faukel, *The Case for Modern Man* (New York, 1955) pp. 49-50, *et passim.*

tion is soundly grounded, as I think it is, in the biological nature of man himself, then one of the chief aims of the learner must be to erect for himself a set of values for his own guidance. By the same token, the function of the college and the teacher must be to provide him, first of all, with the text and an understanding of the great and various sets of values that have provided guidance for other men and other societies. He may, after due study, select one of them, as he understands it, as his own. Or he may, by an eclectic selection of elements of many, reconstruct a syncretic ethic of his own. But he may also reject them all and build his own ethic de novo. There is no logical reason why he should not do so, provided only that this new ethic contain within itself a limitation or a set of limitations touching upon the relationships of his own life with those of other individuals and the community at large, as any ethic must.

Here, again, the process of learning involves both accumulated thought and thinking about that thought. It is the function of the college and the teacher to provide the facts and, insofar as may be possible, to lead or "coach" the learner in his thinking. If this be true, then we have to face the question of pedagogical method, both as to the inculcation of facts and as to the training in thought. Is the lecture method best, or the method of discussion? Or the laboratory method? Or some other? We may leave the examination of this point to a later time; but it is obvious that, once the aim is decided upon, the method to be employed must be the one that gives most promise of achieving the end in view.

¶ The discussion of the place of values in higher education leads us directly to an examination of the non-rational levels of mind. For we know very well that the emotional is organically and functionally integrated with the rational, and that many of the greatest monuments of intellectual achievement have been created by the intelligence only when driven to creative activity by emotional force.

We have, in fact, already recognized this fact, in a limited way, in our college curricula. Our schools of art, for example, have recognized that creative art is not merely a matter of pure intellect, but that, on the contrary, the artist is likely to do his best work while under the stress, as a professor of art recently said to me, of "an intense emotional experience." One is inclined to suggest that all esthetic experience, such as the enjoyment or the creation of art, or literature, or music, is at best emotional and non-rational, as distinguished from the purely intellectual functions of mind.

We have also recognized the same fact in the schools of the so-called humanities. That is to say, we have recognized that the humanities are those areas of human experience which are essentially esthetic and imaginative and only secondarily the concerns of "pure reason," or intelligence.

It is, in fact, out of these esthetic and emotional experiences that many of our most precious values are derived. Thus the idea of beauty is not born of sheer thinking, but rather arises out of the experience of feeling beauty. The surge of sheer emotion that arises in a man upon seeing a beautiful painting, reading a beautiful poem, or hearing beautiful music is not a thing of pure intellect; similarly, the impulses to generosity, to mother love, to self-sacrifice, the feeling of loyalty to a national ideal, are not impulses of the intelligence alone, but have their roots in the non-intellectual parts of the mind. Yet they are not less significant or valid as mechanisms for the living of the good life; in fact, they are, it may be, at least fully as significant, in their own way, in the individual's experience of the good life, as the intellect.

But are they educable? Are they a proper area for the study and planning of the aims of college teaching?

I think our answer must be in the affirmative. The fact is, as I have suggested, that our schools of music, our schools of art, and our schools of creative writing all have their instruction, to a greater or less degree, upon this very principle.

But those schools have exposed to their instruction only a minority or separate minorities, of the students. If these elements are significant and powerful factors in the functioning of every mind, and if their cultivation and training are ideally a part of every individual's college education, it would seem to follow that a conscious aim of the college should be to provide just such a cultivation and training for every student who enters its doors.

But how is this to be done?

Presumably, the required reading of many examples of the world's great literature, and the observation and careful study of the greatest of the world's works of art and music, not so much for an understanding of the "style" or technique

as for an appreciation of the deep emotional and esthetic experiences that gave them birth, should provide for the learner an introduction to the great emotional experiences of other men. Assuming, too, that the emotions are subject to a degree of rational control, it would seem that the study of esthetics and ethics ought to help the learner to channel his own humanistic impulses and establish his own mechanisms of rational self-discipline and direction. The function of the college, again, is first to provide the raw material of experience, as it is to be found in the expressions of the experiences of all those who have gone before, and second to provide the right coaching, in the study of esthetics and ethics, that should enable the learner to establish his own rational controls.

¶ We have considered three main areas of college learning and teaching. We have spoken, first, of the college as the repository of the accumulated learning of all time and of its function as the distributing agent to pass on this body of learning, or the usable parts of it, to the students who come to the college to learn. We have spoken, also, of the need of the learner to think about this learning, and to infuse it with a dynamic of critical thought of his own which will translate it into—and enrich, thereby—the learner's own living experience. And we have attempted to show how learning and thinking are not functions of the intellect alone, working in isolation from the other parts of the mind, but rather that the educative process involves, as an integral and inseparable part of itself, the cultivation and the rational direction of the emotions.

But the highest function of the human mind, working as a whole, is creativity. Human progress is not achieved, human happiness is not extended, by the mere assimilation of one's cultural heritage or by the mere adaptation of the individual to his environment, physical, biological, and social. The long and really dramatic steps forward that resulted, one-by-one, in the steady accumulation of the learning and the culture of the past were taken by individuals who created things that were new, whether ideas, inventions, works of art, literature, or music, or mathematical analyses for the revelation of the internal structure of the atom.

It is precisely at this point that we arrive at the highest aim of the learning process and of teaching. For if the highest conceivable intellectual achievement of the individual mind is the creation of something that is new, then it would seem to follow that the highest aim of the learner should be to find and exploit any creative ability that may be in him, and that the highest function of the college's teaching should be that of providing the climate of opinion, the raw materials, the encouragement, the methodological training, and above all the inspiration that may be necessary for the successful realization of this aim.

This inevitably means a high degree of individual teaching. It means, also, that the most admirable product of our colleges will be the mature, trained, and creative individual minds.

How many Shakespeares, how many Einsteins, how many Platos, how many Mo Ti's, may have been born into the world and may have died, their gifts wasted and unknown, because they were not provided the materials and the methods and climates of opinion favorable to their flourishing? On the other hand, too, how many such geniuses may have been suffocated and snuffed out by the curricular inflexibility of an education based upon the medieval concept of a set of absolute authoritative values or by the mass-production methods of an education which has sought to turn out minds all cast in the same mould or which, blindly limited in its objective to producing trained scientists, has turned out expert technicans but not educated men!

The aims of college learning and teaching are reciprocal. They center about the learner, the individual human mind, and they have for their ultimate joint objective the education, in the sense of cultivation, of the whole individual mind.

Let it not be argued that this position neglects the interests of the community in favor of the individual. For a moment's reflection will make it abundantly clear that the college learning and teaching that produces what we may call the superior individual must inevitably redound to the enrichment and the betterment of the life of the community. Such an education should not only produce men who are free; it must also create a community of free men. And freedom, with the responsibility that is its counterpart, is the highest ethical good.

"Young Men"

"Two kinds of men make good teachers—young men and men who never grow old." CHARLES W. ELIOT.

The Role of the Teacher

Last spring at a faculty-student dinner at Oregon State College, three faculty members were honor guests as "representatives of the outstanding teachers of the campus." The dinner was sponsored by the faculty-student committee on the advancement of teaching which selected the three teachers by a student poll in which greatest weight was given not to plurality of vote but to the reasons students gave for their choice of outstanding teacher. The speaker was a scholar in classics, graduate of the University of British Columbia, Ph.D. from Harvard, who after seventeen years of faculty service at Rollins, Dartmouth, Brown University, and Whitman College, became President of Pacific University in 1953.

By CHARLES J. ARMSTRONG

Tonight we are gathered here to give honor and recognition to members of the faculty of this great institution who have been deemed to have made significant contributions to the cause of excellent teaching. I count it a privilege and a pleasure to have been invited to participate in such an important occasion; and I congratulate not only the recipients of this recognition for a job well done, but in particular I congratulate the College for its wisdom in having decided to make an annual occasion on behalf of this cause. I know of no observance in the academic world which is more fitting, more appropriate, and more needed than this.

It seems to be that in recent years many of our colleges and universities have developed what may be called a "drug-store complex"; we have become so involved in dispensing advice and counseling of all kinds, vocational, academic, personal —often too darned personal, I think, organizing and directing myriads of extracurricular activities, running a social program, an athletic program, hiring coaches and burning them in effigy, cleaning up our athletic policies, organizing financial development programs, planning new buildings, carrying on flirtations with the alumni, or the legislature, or the general public or whatever particular source we think is most promising for those few millions we need—we have become so engrossed in all these activities that like the drug stores that dispense everything under the sun but drugs we have been inclined to overlook our primary and our basic function, which is the dispensing of education. And the heart and soul of education is teaching; the better the teaching, the better the education. It is really as simple as that.

So this institution is conspicuous today for its action, and enviably so. It reminds me of the story of two ladies discussing a friend who had acquired a new car—with all the colors of the rainbow to choose from and many variations that would drive a prism crazy it must have been a difficult choice. "Wouldn't you know that Sally would do something to make herself conspicuous" said one of the dear ladies to the other, "by getting herself a solid black car." So this College is conspicuous by reason of having returned to fundamentals.

Samuel Taylor Coleridge records in his journal the account of a conversation with a friend who insisted that it was very unfair to attempt to influence a child's mind by inculcating any opinions—especially opinions on religious matters—before the child had come to years of discretion and was able to choose for himself. "I showed him my garden," says Coleridge, "and told him it was my botanical garden." "How so?" asked the friend. "It is covered with weeds." "Oh," said Coleridge, "that is only because it has not yet come to its age of discretion and choice. The weeds, you see, have taken liberty to grow, and I thought it unfair of me to prejudice the soil towards roses and strawberries."

Education starts with the basic assumption—call it bias or prejudice if you like—that it is better to know than not to know, and throughout its entire course attempts to inculcate in the student a set of attitudes, a sense of values, the ability to make value judgments—in effect, it seeks to predispose the mind towards roses and strawberries rather than weeds.

The great and crucial catalyst in this process, which more than any other factor determines the final outcome, is the teacher. In seeking to help the student develop his own set of attitudes and values, the teacher will inevitably transmit to the student some of his own attitudes and values; for I am one who believes completely that every man, no matter how objective or unbiased or uncommitted he may claim to be, is nevertheless *committed* to something, to some set of principles by which he lives, and by which he teaches. No matter what he says, or claims to think, in the class-

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room it will not be long before his principles are showing. As the Greeks and Romans recognized, this is the essential meaning implicit in the relationship between *master* and *pupil*, as their words for teacher and student indicate. The one inescapably influences the other, for good or bad, for better or for worse.

The practitioner of the art—the skill, the profession, the vocation, the gift—no word adequately can describe this priceless ability—the practitioner of the art of teaching has, of course, a powerful force on his side. To illustrate what I mean, let me briefly remind you of the story of Ulysses and the Sirens, as told by Homer in the *Odyssey*.

On his voyage home from Troy, Ulysses and his crew had to pass by the island of the Sirens, mythical creatures who lured sailors to destruction on the rocks, by the irresistible song which they sang. Ulysses was determined to hear what they sang, and so he had his men tie him to the mast, while they, with ears plugged with wax, rowed the ship past the Sirens' rock. And what was the song the Sirens sang? Homer tells us. They made no appeal to Ulysses' physical senses, but rather they said, "Come hither, glorious Ulysses, and go on your way the wiser . . . for we know all things, all that hath been and all that shall be hereafter." They appealed to his *desire to know*, because it was the strongest possible appeal that they could make to any human being.

Compare with that the story of the garden of Eden. What was the thing that tempted Eve, and overcame all her impulse to obey the will of God? It was the product of the Tree of Knowledge, the apple in the Bibical symbol. In other words, it was her desire to know, her will to learn, which tempted her beyond all power to resist.

So it is the will to learn—motivation, if we want to be modern and up-to-date—which is one of the most powerful forces in the world, which is the beginning and the end of education.

This is the force which is on the side of the teacher, although I am sure that every teacher has felt many times that the will to *resist* learning is uppermost in the minds of some students. But that is only part of the challenge of teaching, one of the things which make teaching the most frustrating and at the same time the most rewarding and satisfying occupation in the world. The thrill of achievement that comes occasionally to us all when finally we succeed in luring that reluctant elf, motivation, out of the corner of the student's mind where he has been hiding all this time!—there is nothing in the world that can surpass it.

Every teacher knows that education cannot be passive or static if it is to be successful; that it must be a dynamic, active, continual process in which the learner must participate. He knows also that ideas are the greatest power in the world, the things of the spirit for which men live and are willing to die. The ancient Greeks, among whom were numbered some of the world's first and greatest teachers, recognized it, and they knew that the greatest things in the world are Truth, Beauty, Excellence, Freedom. They knew that only knowledge and truth can bring freedom; they understood the liberating force of truth—the truth that "shall make you free," in Christ's words.

Freedom and education have been synonymous in America, and we must keep them so. Through our freedom we have been able to build our vast educational enterprise, the most ambitious in the world's history; and our educational enterprise has been a major factor in enabling us to preserve our freedom. The members of the teaching profession who over the years have resisted all would-be assaults upon academic freedom have fought just as valiantly for the American way of life as any soldiers on the battlefields of the past.

In a Commencement address a year ago, my good friend and former colleague, President Chester Maxey of Whitman College, spoke cogently to this issue:

> Above all else the teacher must be a free man—intellectually free and spiritually free. No man under compulsion can be truly and greatly a teacher. In America this is taken for granted. We do not require our teachers to follow a party line, a religious line, or even a color line. Nor do we want them to be at the beck and call of any special interests or pressure groups. Public opinion in the United States is always strongly on the side of academic freedom, for we have learned that academic repression always results in academic sterility. It is one of the glories of America that we have succeeded more largely than any other country in emancipating our teachers from external compulsion.
>
> But this alone does not insure full academic freedom. There are internal compulsions which can stifle the freedom of the teacher and blight the freedom of a school or college as surely as any which may be imposed from without. These internal compulsions originate in the narrowness, the prejudices, the false beliefs, the intolerances, and the self-deceptions of teachers themselves. No man under the compulsions of his own smallness of mind and soul can be truly and greatly a teacher. Full academic freedom requires emancipation from self-imposed shackles as well as security from outside coercion. The teacher who would be totally free must be always alert to the fact that

> the greater his freedom from external compulsions, the more exposed he is to the subtle tyrannies of his own personal pharisaisms. He will not overcome these merely by professing high ideals. Every day of his life he must work hard, far harder than other men, to widen his knowledge, dethrone his prejudice, and rectify his judgments.

This analysis brings us back, by a different way, to the point I made earlier, that the great teacher is determined by his attitudes, by his values and his commitments; not merely by his integrity as a scholar, but by his integrity as a human being, through the force of his own personal character. And great teachers are desperately needed in our world today.

That the teaching profession, particularly in the colleges and universities, faces its most climactic challenge during the next few years as the tidal wave of students rolls in, is a fact that surely needs no elaboration to this audience. The sheer physical aspects of the approaching crisis of numbers are entirely sufficient to cause sleepless nights in faculty homes and presidential abodes; of course presidents are night-owls anyway, so perhaps that is no change.

But I am concerned, and I think every member of the teaching profession must be concerned, about a different kind of crisis which is upon us, and which will be only aggravated by the crisis of numbers. This crisis has been growing for a long time, and its causes are deep-seated and subtle.

It is the crisis of liberal education, and, in a sense, it is the crisis of our whole culture. It has had two chief contributory factors: the overemphasis on vocationalism in education at all levels, and what I may call the cult of conformity.

To be sure, vocational training as a subordinate *part* of the educational process is an entirely laudable function, and it performs a needed and valuable service for many young people. But when vocationalism is allowed to dominate high school or college curricula then, in my estimation, it defeats the whole purpose of education. Training in certain special skills and knowledges needed by specific occupations is an indispensable *part* of education, but it is only part, and a subordinate one at that; it can never substitute for the basic general skills and knowledges necessary to all truly educated men and women who must take their places as responsible adults in the world of daily living, and from whom is expected intelligent leadership in business, in the professions, and in all the concerns of life.

Our overemphasis on vocationalism has led us to produce—and not merely at the high school level, but even among college graduates and the holders of advanced degrees—men and women who cannot read, write, or express themselves effectively, who cannot communicate intelligently with their fellows, who have little geniune understanding of, or concern for, the world in which they live.

This overemphasis has led us to the point where, in a recent magazine article describing the program of a large midwestern high school, represented as being typical of today's public schools, the superintendent is quoted as saying that the trouble with American education is that it is concentrated too much on the intellectual aspect. Even teachers' colleges, he observes sadly, still require plane geometry for admission. Except for a small coterie, he asks, of what value to most people are the so-called traditional academic disciplines? He is not actually against intelligence, but he believes it should be channeled toward real-life vocational needs more than to the academic requirements of the colleges.

The other contributory cause of our crisis, sometimes referred to as the anti-intellectual movement, is what I call the cult of conformity. Whether we recognize it or not, we have in recent years developed a philosophy of society which is fast becoming the dominant cultural movement in our country. It is based upon several widely accepted tenets or articles of faith: First, the individual exists only as a member of a group; we live in a society, and we must live with our fellows. Second, the individual fulfills himself only as he works with others; of himself he is nothing. His tensions, his frustrations—these are the penalties for his failure at adjustment. The famous passage in John Donne, the great philosopher poet, beginning "No man is an island entire of itself" . . . and ending, "any man's death diminishes me, because I am involved in mankind; and therefore, never send to know for whom the bell tolls: it tolls for thee" —even this passage is cited as supporting argument for the second tenet—a misinterpretation of the original meaning which must surely make Donne turn in his grave. Finally, the argument goes, ideally there should be no conflict between man and society, and the good world that we must strive for is one in which all are harmonious with one another and in which the measure of a man's activity is how well he contributes to that harmony. Above all, he

must *get along* with people. Such are the tenets of the cult.

Here, I may remark parenthetically, is the essential point which President Pusey of Harvard University was making not long ago when he said that we have been training a nation of "happy illiterates." We have emphasized adjustment, not knowledge or understanding; we have become preoccupied with the by-products of liberal education rather than with the end-product.

Now this emphasis on conformity would be no problem if it were merely a statement of a point of view, an attitude toward the inescapable fact that ours *is* an age of great organization, that ours *is* a society in which most persons work in collective units. But unfortunately it is far more that that; it is in fact a rationalization of conformity into a cult, something almost akin to a religion. We hear the apostles of this new cult on every side—not merely in education, but in business, in industry, in the professions, in government, in every aspect of our national life. The eminence attained by the late Dale Carnegie with his "How To Win Friends" etc. is proof sufficient of the fervor of the believers.

In itself there is, to be sure, nothing wrong with recognition of the necessity of living in a society and getting along harmoniously with our fellows. But when conformity becomes a philosophy, a belief, an end in itself, then we are indeed in danger of losing the very qualities which have built our educational system, our culture, our way of life. For a society in which there can be no conflict of any kind, in which the goal of living is to conform to the group, is a society which is dying on its feet.

There is no room for genius in such an atmosphere, for the creative nonconformist who is frustrated by the status quo, the individualist who through skepticism, questioning, curiosity, and inquiry breaks through the shell of stagnation and reaches out into new areas of the intellect and of the spirit. America was built by such men and women; and if we are to have any hope of surviving, of carrying forward and transmitting to our children our way of life with its ideals and dreams and opportunities for the growth of the human spirit, then we dare not allow ourselves to succumb to the insidious and enervating philosophy of the cult of conformity.

American democracy was created by men of faith—faith in God, in themselves, and in their ideals. American democracy is itself a testament of faith; if we lose faith, we lose everything. But faith cannot grow in a cult of conformity. If our society can no longer produce men and women who have faith in themselves as individuals, who are willing to take a chance on themselves, to work, to strive, to dream, to create— then our future is grim indeed.

The cult of conformity has had additional powerful forces shaping it which are the inevitable result of the age in which we have been living for more than a generation; and we have become so accustomed to them that their product has come upon most of us unaware. By this I mean that because ours has been an age of war and fear and unrest in the world, it has been only natural for us to set a premium upon security. In a world that has signally lacked security for a generation this is small wonder. We have become preoccupied with freedom *from* things—freedom from fear, from want, from insecurity—instead of the much more important kind of freedom—freedom *for* something—freedom for faith, freedom for individual initiative, freedom for man's full development as a creative being. Under our preoccupation with these negative concepts we have sought security in conformity, have taken refuge in the group, yielding to our primitive herd instinct.

And our children have reflected well this attitude; all of us in the colleges have noted the increase of interest on the part of students in security to the exclusion of practically all other considerations with more and more alarm in recent years. Almost the first question which most college graduates today ask of prospective employers, is, what are your provisions for security —fringe benefits, retirement, health and accident programs, job security? Not, What are the opportunities for advancement, for growth, for creative activity? Nor is today's average college graduate looking for opportunities to go into business for himself, or to strike out on his own; by far the great majority want jobs with big companies which have career opportunities well hemmed in by security provisions. We cannot blame the youngsters; they are only reflecting a lesson which we have taught them all too well.

At the same time this emphasis on security, on conformity, has produced what most college teachers now refer to as the philosophy of mediocrity among college students. Students are inclined to look with scorn or suspicion on the oddball or grind—the nonconformist—who makes

high grades; much better to go for the "gentleman's grade"—the C, symbol of mediocrity and conformity.

Here, then, is the real crisis which is upon us in the colleges and universities, and which can only be aggravated in the years to come as more students, themselves the products of an overcrowded, understaffed public school system too often dominated by the cult of vocationalism, knock upon the doors of the colleges. The new illiteracy—even though it may be a "happy" illiteracy in Pusey's phrase, is thus the inevitable result of the forces we have been so assiduously cultivating for many years. It is nobody's fault, and yet it is everybody's fault.

Nobody who has been even casually associated with colleges and universities recently can have failed to be impressed by the resurgence, particularly in the past few years, of interest in the problems of religious belief, in matters of spiritual concern, on the part of students. In ever greater numbers, and with increasing urgency, they are seeking and asking answers to the deepest questions of life, of faith, of an enduring philosophy of values by which they may live in an insecure world. They look to us for at least some of the answers, and what have we been doing about it?

The cynical may say that this rebirth of spiritual interest is merely a conditioned response to the insecurity of the environment in which our young people have been raised, and that therefore it is superficial. But I do not believe this. I am convinced that it is not only sincere, but that it presents us with an opportunity and a challenge which we dare not ignore. If we have the courage to take up this challenge and if we will enlist our students in a cooperative venture with us to look, sincerely and earnestly, for some of the answers to these big questions, then I believe that we shall have gone a very long way toward unravelling most of the other problems which I have been speaking of, which have created the crisis of liberal education and of our culture. I say this because I am convinced that the whole crisis of education is basically a spiritual one, and that all our efforts will be mere tinkering unless we get at the basic issue.

In this undertaking the role of the teacher is crucial. Teachers are inevitably leaders, and great teachers are great leaders. It is incumbent upon all who profess the art of teaching to provide leadership in the quest to insure that students reach their full development as individual human beings, with maximum understanding of themselves as individuals, of their ideal potential as creative nonconformists in intellectual situations, who recognize the value of conformity but are well aware of its limitations—who, in a word, are intellectually, emotionally, and spiritually mature persons. All who teach must continually seek out new insights into the motivations of the human mind and spirit, new understandings of man's true potential both as a creative individual and as a significant component of the society in which he must live, new interpretations of man's true role in a world too long dominated by fear and insecurity—these things must concern all of us if we are to have any hope of finding solutions to the crisis of our culture—a crisis which, I think we must admit, has been largely one of our own making.

Time is running out. If we fail to meet our opportunity, if we turn aside from the responsibility which is ours, it will be a failure of the most far-reaching consequences, because, as has been truly said, what happens to American education will ultimately happen to America.

"The Mark of the Professional Man"

"'Whosoever shall compel thee to go a mile go with him twain.' This, said Dr. William E. Wickenden, is the mark of the professional man. Every calling has its mile of competition, its round of tasks and duties, its code of man-to-man relations, which one must traverse day by day if he is to survive. Beyond that lies the mile of voluntary effort where men strive for special excellence, seek self-expression more than material gain, and give unrequited margin of service to the common good which alone can invest work with a wide and enduring significance. The best fun of life and most of its durable satisfactions lie in this Second Mile, and it is only here that calling can attain to the dignity or distinction of a profession." Editorial by EVERETT S. LEE, General Electric Review. July 1955.

"The Ordinary Became Extraordinary"

THE SECRET OF A TEACHER

"In the sincere belief that it will serve as an inspiration and a challenge to all college teachers" the late Professor G. W. Stewart of the State University of Iowa (A.B., Sc.D., DePauw; Ph.D., Cornell; Sc.D., Pittsburgh) told of the life and secret of an outstanding and distinguished college physics teacher. The article is reprinted by kind permission of publisher from the American Journal of Physics.

By G. W. STEWART

Professor J. C. Jensen of Nebraska Wesleyan University is a modest man of boundless enthusiasm, energy, and vision. Now near retirement, he was at last persuaded in 1955 to tell the story of his forty-five years as a teacher of college physics. His account is sketched here with additional comment and interpretation by the writer, in the sincere belief that it will serve as an inspiration and a challenge to all college teachers.

Young Jensen's beginning was certainly inauspicious. At 16 he graduated from a ten-grade high school. He then taught in rural schools for four years, attended college for two years, and became superintendent of schools in a southwest Nebraska county-seat town, teaching eight classes each day. One of them was physics. At the end of three years, with the assistance of enthusiastic students and a janitor, a considerable amount of apparatus was constructed from cast-off materials. For example, the spring for a Joly balance came out of an abandoned shade-roller. No wonder that the state school authorities insisted that this home-made equipment be exhibited at the State Fair. It won all the prizes in its class. This honor enabled the struggling Nebraska Wesleyan University, to its life-long credit, to see in the youthful Jensen, (then not only plain Mr. but without a college degree) the kind of man they needed. He was made an instructor forthwith. Thereupon he initiated a 3-hour course in physics, and spent part of his time as a student at the University of Nebraska. By 1909, with the help of this part-time study, he obtained the baccalaureate degree from Nebraska Wesleyan. He was then appointed head of the newly created department of physics at that University. His equipment inventoried at $100. What made him think he could meet the opportunity?

Following the already established Jensen method, he surrounded himself with enthusiastic students and obtained light airy rooms above the newly constructed power plant by undertaking, gratis, some of the carpentering and all of the electric wiring for the entire building. As will be mentioned later, this power plant became an asset to his laboratory, indeed a part of it.

Professor Jensen early realized that some of his students in physics would use the acquired knowledge professionally, for some of them would become engineers, some chemists, some physicists, some secondary school teachers, and some civic and industrial leaders. What then would be of benefit to all? Not only an intimate acquaintance with the information in the textbook and with standard experiments in the laboratory, but also a familiarity with physics at work in the world about them. In fact the application of physics gave a flavor to his teaching which aroused a lively interest on the part of all his students. His pedagogical strategy therefore included active attention to the current developments in radio and the construction of apparatus by the students. This student activity in apparatus construction resulted in a steady growth of the laboratory facilities, gave an opportunity for developing initiative, and provided up-to-date displays for an annual Open House. Thus the policy of directing his teaching toward the encouragement of imaginative thinking simultaneously with the acquisition of practical skills paid immediate dividends.

The development of radio by the laboratory began with a simple spark radio transmitter and a coherer-receiver which could be carried far and wide in the state for demonstrations in schools and churches. A few year later a 1-kw outfit was licensed as a 9 YD, and from it were sent out bulletins and market reports. As a consequence half a dozen students received initial training for entering the communications field in World War I. The fact that the laboratory was overshadowed by the one at the University of Nebraska a few miles distant in the same city did not seem to discourage this earnest teacher or dampen the enthusiasm of his students. In 1924 he was broadcasting from a 500-watt composite station WCAJ. In 1933 he had a crystal-controlled, 100 per cent modulation transmitter rated at 1,000 watts. During the financial crisis it was sold for $10,000.

Among the students who gained experience in radio construction and operation at WCAJ were: Walter Tesch, '21, radio engineer Corporation of America, who spent 10 years as RCA representative in Japan; Dr. Paul Martin, '22, of Wheaton College; Dr. Arthur Johnson, '24, chairman department of physics, Montana State College; Dr. Harvard Hull, '27, well known for his research work at Oak Ridge and at Argonne, and now president of the Farnsworth Electronics Co.; Dr. John Dunning, '29, dean of the engineering college and director of research, Columbia University; Ed Snyder, '28, engineer KOIN-TV; Lloyd Ames, '31, who operated the University of South Dakota radio station while earning a master's degree, served as a radar specialist in France, on Okinawa, and in Japan in World War II, and is now radar technician with offices in the Pentagon; Robert Jensen, '33, television engineer, NBC, Hollywood; Harlan Underkofler, '33, now engineer KFAB; Glen Hadsell, '35, operations analyst, SAC, Omaha, and George Dodrill, '35, head, Radio Control, REA Washington.

The early experiments of the laboratory in radio initiated a mental chain-reaction which gave a special direction to Jensen's interests. He investigated thunderstorms and lightning phenomena, this eventually leading to a Ph.D. thesis and later to research covering precipitation-static and interference-free reception on aircraft. With a background that demonstrated such technical competence, it is not surprising that he became secretary and later president of the Association of College and University Broadcasting Stations.

When in 1918 he was asked to become superintendent of the power plant at Nebraska Wesleyan, he saw an opportunity which a man of lesser vision would have missed. When a more adequate power plant was advertised for sale at an attractive price, it was purchased. Its installation involved the solving of many engineering problems in which the students cooperated. What better training could the future engineer, physics teacher, or research worker wish than to participate in the testing of such a plant and the compilation of cost per kw-hr of services given in heat and electricity?[1]

Project succeded project to make Dr. Jensen's laboratory a production line of creative activity. Among the major undertakings was the Rose Memorial Observatory. A six-inch refracting telescope was purchased at a depression bargain price, the architectural drawings were made by an alumnus, and somehow the building was erected. A McComb-Romberg seismograph of the U. S. Coast and Geodetic Survey was obtained and installed in the vault underneath the telescope. Many of the minor projects were completed by students as a part of their credit work. A tube-tester,[2] a complicated audio-oscillator,[3] a cathode-ray oscillograph,[4] and a stopwatch and curve plotter, timing to 1/30 sec,[5] were some of the apparatus which became of permanent value. The three criteria for undertaking a project were: Is it worth the student's time? Is the proposed instrument needed? Can the laboratory afford the parts?

During his tenure at Nebraska Wesleyan, Dr. Jensen stressed graduate training, partly because he had to start without it, and partly because he knew what was usually necessary to turn out good men. The names of only a few appear in the foregoing account. There are numerous others occupying important positions such as, for example, Dr. Paul Copeland, head of the department of physics at the Illinois Institute of Technology. During his 45 years at Nebraska Wesleyan, Dr. Jensen secured fellowships and graduate assistantships for 64 seniors; 10 of his students entered advanced fields of work by other routes. Of the dozen or more who followed atomic research, Roy Goslin is head of the physics department at Oglethorpe University, Major Clary, '41, is with the USAF, Dr. Keim, '27, Dr. Magnuson, '41, and Don Tranger, '42, are at Oak Ridge, and Dr. Loar, '46, is with the Western Electric Company.

The address of Dr. Jensen at the Colloquium of College Physicists made it very clear that his mind had always been possessed by a vision of what a student can become through his abilities and imagination; he was ever conscious of the effect that inspiring thinking can have in that growth.

Dr. Jensen was constantly on the alert for new challenges to put before his students. Excellence in reproducing textbook material was never his most important goal in teaching, though he had an active interest for many years in the Honors and Scholarships Committee of the faculty. Knowledge was something to be utilized and therefore valued as a possession, but original thinking was prized beyond all else. Under his penetrating scrutiny the ordinary became extraordinary. To possess this ability and to communicate it to his students is the Secret of a Teacher.

1 Among such students were Dr. Carl Frederick, '25, president, Frederick Research Corporation; George Watson, '27, research physicist, Gulf Oil Company; M. C. Welsh, '29, superintendent power plant, Bruneau, Idaho; Oscar Bryant, '30, Bell Telephone Company; Oliver Schock, '39, Guided Missiles Research with Convair; and Eldon Brown, '41, senior project engineer with Sperry.

2 By Dr. Harvey Hull, already mentioned.

3 By Dr. Roland Zabel, '29, manager of Lamp Engineering for Westinghouse.

4 By G. G. Carne, research engineer, RCA.

5 By Francis Breeden, '40; with the Cornell Aeronautical Laboratories at Buffalo.

Thinking About Teaching

The chairman of the board of trustees addressed a faculty meeting of Briarcliff Junior College on the theme "Thinking About Teaching" and characterized his remarks as "new paragraphs on old ideas." Dr. Ordway Tead is an outstanding figure in American scholarship and higher education. When he speaks he is worth hearing, and when he writes he is worth reading. This journal is privileged to print another of his speeches. We commend to our readers every one of these succinct and significant paragraphs.

By ORDWAY TEAD

The modest pride which we all take in the splendid teaching at Briarcliff allows for the cherishing of greater pride ensuing upon always-richer shared experience and performance.

Even the teacher who is most confident of technical mastery in forwarding the student's learning processes can never afford to be complacent because he or she assumes he has all the answers. And the teacher who is less self-assured in his "approach to the green" may afford, at least annually, the luxury of self-scrutiny about his methods in this profession where the qualitative differences can on a spectrum, so to speak, run from excellence to mediocrity, brilliance to dullness, phosphorescence to darkness—and all this as affecting many other human minds and spirits.

¶ Higher education has ideally not one sharply separable aim. It has primary and secondary, major and minor aims, depending for the individual teacher upon his or her preconceptions, training, etc. But confronted as both means and end, as it is profoundly viewed and experienced, college education is a personally and consciously assumed process in which the person should eventually discover elements of his own growth in at least the following areas: more practical knowledge; defensible self-criticized attitudes; conscious methods of intellectual attack (inductive, deductive, intuitive); deepened appreciative powers; cultivation of individual talents and skills; use of one's combined powers toward individual productivity or creativity (subjective and objective); a commitment, moral in essence, of devotion to realizing "the good life" in the Aristotelian sense and "the abundant life" in the Hebrew sense.

In this process, personally embraced by students, the teacher's role is one of helping identify these plural aims and directing students toward ways of stimulating their own growth and development.

The good teacher is himself continuing this growth process for himself, and is thus able to say in effect "Come along this way" rather than "That is the road you should travel."

¶ In the multiplicity of ideas which can usefully be brought to bear on a situation, problem, project, venture or subject-area, and which the teacher has availably "in mind," there is often a real question of selecting and limiting the *number of ideas* to be brought to bear during one hour, as well as to establish the most illuminating *sequence* of presentation. In teaching, these two problems are perennial; and the danger of the teacher proffering too rich a fare too fast has to be guarded against. Timing the newly added as well as the more complex ideas to the learner's readiness to assimilate them requires the teacher's constant alertness, especially since the assimilation rate varies so much from student to student. Also, what may seem a systematic and rational sequence of ideas to the teacher may not so appear to colleagues or students.

¶ The teacher is tempted to simplify the expression of his or her ideas in the interest of speedier student grasp and acceptance. This usually means some degree of distortion of the pattern of thought as reflecting or expressing the realities. "Try to get what I mean, not what I say," might well be the occasional warning of the teacher sensitive to achieve good and subtle communication.

¶ The insistence upon excellence without provoking continuous student exasperation; standards upheld and worked toward with one's students without professorial sadism (or masochism by the over-conscientious teacher, of whom there are a few!)—these desirable ends entail adroit, loving, patient, and diplomatic means by a teacher not fatigued because too close to the problem.

¶ To the extent that thinking proceeds most cogently when it is done in verbal terms (and how else?), the student who excuses himself as not

being able to express what he thinks, has a dubious alibi ("I know what I mean but I can't put it into words"). There may, however, be a qualifying condition in that he may have strong feelings which he mistakes for ideas; and these feelings he might objectify through one of several media of which words may not be the best. But if there is to be communication by the student relevant to the matter under discussion, there must be his effort toward projection outward through *some* medium; and the words appropriate to such projection had better be learned by him as promptly as possible.

¶ The teacher may well experience a recurring tension between the attraction of the work of instruction and that of research. For many teachers familiar with and fond of the atmosphere of the university, this problem of emphasis and interest may be perennial once the teacher is required to be primarily immersed in teaching in a college.

I believe it is possible for the teacher to take to the college something of the quality of the university for the enrichment of undergraduates, and to find in the college a kind of important challenge on this score which is special to the college.

The two points of view can be complementary even though research in the university sense may not thrive in the college. If we will recall John Masefield's following paragraph, a balance of concerns may become more possible in a college setting because of a rightful stress upon common aspects of purpose:

> "There are few earthly things more beautiful than a University. It is a place where those who hate ignorance may strive to know, where those who perceive truth may strive to make others see; where seekers and learners alike, banded together in the search for knowledge, will honor thought in all its finer ways, will welcome thinkers in distress or in exile, will uphold ever the dignity of thought and learning, and will exact standards in these things. They give to the young in their impressionable years the bond of a lofty purpose shared, of a great corporate life whose links will not be loosed until they die. They give young people that close companionship for which youth longs, and that chance of the endless discussion of the themes which are endless, without which youth would seem a waste of time."

¶ Professor Josiah Royce was once asked by Professor Max Otto what his object in teaching was. He replied: "I wish to give my students a little place on which to set their feet."

¶ The teacher can never be sure he "knows his subject." The next book he reads may well require the assimilation of some new evidence, a fresh orientation or integration, a modified frame of reference. On no subject of really human importance is all the evidence ever in hand.

¶ Every teacher has come by his fund of background and knowledge by what he would probably regard as "the hard way." Looking back, not all the fumbling to assure coverage and assimilation may have been needful. Even so, is there not a tendency for the teacher to want to put new students through much the same process with much the same exposure and struggle that he himself experienced? Is there not, therefore, a proper question to be raised as to the extent that today's students should be required to recapitulate one's own entire learning experiences? Should not the teacher occasionally scrutinize his proffered subject-matter to assure that there is a justifiable selection of today's essentials?

¶ Each individual's normal effort to determine what kinds of experience are *valuable* for him or her should hopefully gain vigor as maturity comes on. But for such evaluative effort, or conscious search for values, to be most worthwhile, it needs stimulation and guidance. One of the provocative aims in teaching any subject can well be the stimulating and guiding of this search in terms of the value aspects of the matter studied. *Give the valuing aspect periodic emphasis*—this is a counsel of good teaching practice. It is a recognition of the high morality of the whole educational effort. In this connection the word morality means recognition by the student and teacher of their joint responsibility to advance overt expressions of their discoveries in the direction of truth, beauty, and goodness.

"Harmony Wherein He Is a Note"

"Even should mind in the cataclysm of Nature be doomed to disappear and man's mind with it, man will have had his compensation: to have glimpsed a coherent world and himself as item in it. To have heard for a moment a harmony wherein he is a note." SIR CHARLES SHERRINGTON. Man on His Nature. New York: Cambridge University Press. 1941. Page 401.

The Popular or the Profound?

Is something really wrong with Chaucer's famous characterization of the man who would gladly learn and gladly teach? Are fun and profundity in the classroom equally questionable, or are they incompatible? Here is a provocative discussion by a University of Utah English instructor who holds an M.A. degree from Iowa and a Ph.D. from Columbia, and has taught on four campuses.

By KENNETH E. EBLE

There is a widespread suspicion among American college students that learning cannot be fun. Certainly a teacher makes little real impression upon a humanities group when he quotes Aristotle in the *Poetics,* saying "To learn is very pleasant not only to philosophers but also in the same way to men generally, even though they partake of this pleasure but to a slight extent." To most of the students, such a statement is academic at best, and if presented ponderously enough, worth taking down in a looseleaf notebook.

Every teacher must have faced the students who rebel when the going is rough, slack off when the going is easy, and look back upon one part of their college work as dull but somehow valuable and another part as entertaining but not to be taken seriously. Reminiscences about college days are likely to single out two distinct kinds of professors. There was Professor X. His classes were deadly but one really learned something. And there was Professor Z. His classes were entertaining but one did not learn a thing. In the graduate schools, where the discussions of classes and professors are more informed, though not always more judicious, the inclusive premises are that the popular teacher is likely to be unsound; that the profound teacher is likely to be dull.

There is no very sound reason for accepting either premise, but the feeling, particularly in American education, that work is good but unpleasant, play attractive but unprofitable gives currency to these notions. Thus, though such popular (and profound) lecturers as Gilbert Highet at Columbia or Howard Mumford Jones at Harvard must constantly seek out larger classrooms to hold their audiences, there is an undercurrent of distrust among the cognoscenti. There is something wrong with being popular.

The effects of this attitude have not all been adverse. It has discouraged the lecturers who are long on anecdotes and short on information. It has kept many teachers of great wisdom but faulty expression from being lost to the next generation except through their published works. It has also prevented many students from assuming that all complexities of knowledge can be reduced to simple formulations, and that the drudgery of scholarship is a vestigial remnant of the German research method. In these respects, there is some justification for eschewing popularity and for communicating the essence of dullness dully.

But these are fringe benefits at best. What the teacher needs to free himself from is the suspicion of communicating knowledge pleasurably, and the tendency to assume that profundity excuses dullness. Alfred North Whitehead phrased the teacher's duty thus:

> Knowledge does not keep any better than fish. You may be dealing with knowledge of the old species, with some old truth; but somehow or other it must come to the students, as it were, just drawn out of the sea and with the freshness of its immediate importance.

The "somehow or other" includes all the myriad intricacies and possibilities by which a teacher engages a student's mind. What works for one teacher, or for one class, may not for another, and there are as many ways of catching his attention as there are of catching fish—and as few. But what is important is that the student must be caught, and the teacher must be the catcher.

In the face of such necessity, it is unfortunate that the teacher who attracts students is oftentimes dismissed as a "popularizer." There is a suspicion in academic circles that classroom popularity is similar to the kind of popularity guaranteed by the right selection of skin cream, hair oil, or toothpaste. The young instructor may excuse his lack of skill in communicating to his students with the rationalization that anyone can be popular. I reject these notions. It seems to me that teachers should work to attract students, and that the teacher who holds the student's attention is likely to be a highly competent one.

Certainly, the empty but entertaining professor can hold his audience for a time, though if he were truly empty he could hardly be entertaining. More than that, however, the zeal of practi-

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cally oriented students to realize immediate benefits from courses class hour by class hour keeps the teacher who chats on domestic life and my experiences in Paris in '28 from keeping his audience. One might imagine a raconteur who could keep his classes consistently entertained for fifty minutes at a stretch without touching upon the substance of his course, but he would be a rare bird indeed. The average teacher is likely to stick close to his subject matter however he presents it. If he can be entertaining about it, so much the better. True, placing the emphasis upon presenting one's subject well may be conducive to glibness, superficiality, and irrelevance, just as excessive attention to scholarly details may beget obscurity and dullness. Most college teachers do not consciously seek either extreme. The individual teacher's personal attributes, his aptitudes and inclinations do much to determine the value he places upon one or the other. If he is an engaging conversationalist, a ready and fluent speaker and something less of a scholar, he will likely champion and exemplify the skillful classroom presentation. If he is a thorough, conscientious, even brilliant scholar, but somewhat ill at ease in the classroom, he is likely to emphasize the profundity of his thinking despite the awkwardness or ineffectiveness of his expression. Nor are we likely to find at any one time or in any one college, very many men who can search, synthesize, and spellbind with equal facility.

But great scholars and/or great spellbinders teach few of our college students. A competence in research and general knowledge guaranteed by the rigors of the Ph.D. program and a classroom manner which stimulates some and drives few away characterize the majority of our scholar-teachers. What is to be desired is that college teachers do not make the extremes of popularity and profundity mutually exclusive, or let the presence of one rationalize for the absence of the other.

A colleague of mine, expressing disgust, as we all do at one time or another, over the lack of response he was getting out of his students, said, "I'm tired of being a gimmick man. I want to present the material as I see it and feel it and let its worth provoke the student's interest." I'm afraid one must always be a gimmick man, that is, unless he thinks in different terms and finds the "gimmick" not an artificial device for stimulating an artificial interest but an integral part of transmitting his learning from library stacks to student minds. Certainly one can become overwhelmed with clippings, charts, pictures, recordings, and the like just as one can become tired of rousing one's emotions, searching for meaningful referents, courting the right gesture, emphasis, and inflection. But all of these are part of the teacher's stock in trade, and should be no more anomalous to his profession than microfilm or the typewriter. In other words, it seems to me that a teacher should not think in terms of courting popularity or of corrupting his subject matter by using pedagogical devices to stimulate interest, but rather refuse to yield to any temptation to separate the importance of his subject matter from the need to get it across.

The young instructor starting out, then, need not make a decision between being popular or being profound. He needs to aim at both, for in meeting the problems faced by college scholar-teachers, the one is no more important than the other. This does not imply that we emphasize methodology at the expense of scholarship; it does mean that we consciously cultivate methodology—but let us call it the art of teaching—all the way through our careers. Maybe that way we could convince more students that learning is truly one of man's greatest pleasures.

In the Spring Issue

The Spring issue (mailed in February) will include contributions by Claude E. Buxton of Yale University, Lawrence H. Chamberlain of Columbia University, Elmer Hutchisson of Case Institute of Technology, Charles Süsskind of the University of California, and Karl F. Thompson of Michigan State University, together with editorial, book reviews and notes, and other features.

Book Notes

CHANGE AND PROCESS IN EDUCATION by Malcolm S. MacLean and Edwin A. Lee. New York: The Dryden Press. 1956. vi + 520 pp. $5.50.
Educational change, the results of change, the educational process. Two professors with a total of 90 years of educational experience present what they have learned, thought, and valued concerning the issues, problems, processes, and practices of American public education. The college teacher can gain much general educational knowledge from reading this book, and many portions deal ably with college and university programs and interests.

FRONTIERS OF KNOWLEDGE IN THE STUDY OF MAN by Lynn White, Jr., (editor) and others. New York: Harper & Brothers. 1956. xii + 330 pp. $4.50.
Seventeen distinguished authorities present new knowledge and ideas in their fields pertaining to the better understanding of humankind: Boulding, Bufokzer, Cohen, Dobzhansky, Hedley, Hughes, Jones, Kimble, Kluckhohn, Langer, Lotz, Murphy, Neumeyer, Odegard, Rappoport, White, Willey. A book "for all curious and lively minds."

READING IN CHILD DEVELOPMENT by William H. Burton and collaborators: Clara Belle Baker and Grace E. Kemp. Indianapolis: The Bobbs-Merrill Company, Inc. xvi + 608 pp. $7.47 (net school price $5.60).
"Reading is a functional activity, not a 'tool' subject as frequently described." "It is a means of growth, of extending experience, and of developing personality." The book contains many illustrations.

SOME OBSERVATIONS ON AMERICAN EDUCATION by Robert M. Hutchins. New York: Cambridge University Press. 1956. xiii + 107 pp. $2.75.
Based on lectures given in British universities. "No educational system is as good as it should be." "Nothing is more striking than the absence of connection between the problems of America and the educational programme."

SOCIAL FOUNDATIONS OF EDUCATION by William O. Stanley, O. Othanal Smith, Kenneth D. Benne, and Archibald W. Anderson. New York: The Dryden Press. 1956. xviii + 638 pp. $5.90.
A college teacher wishing knowledge of the social foundations of education will find this book a rich source. He can find also plenty of food for thought. Example: Veblen made it clear that remnants of leisure class education still persisted in schools and colleges fifty years ago. "These remnants may still be detected."

"Stimulating Articles"

Atkins, S. D., et al. "The Status of Latin in Public Schools." *School and Society,* Vol. 84, No. 2098, November 10, 1956. Pages 166-167.
Addressed to secondary school administrators but of concern to colleges and universities. "Latin may disappear altogether from our public schools if something is not done to relieve the severe shortage of Latin teachers."

Glicksberg, Charles J. "In Vindication of College Youth." *The Educational Record.* Vol. 37, No. 4, October 1956. Pages 336-343.
"Where are the young in college to find the spiritual leadership they so desperately need? Their professors are largely silent or ineffectual."

Hershey, Lt. General Lewis B. "The College Student and Selective Service." *Higher Education.* Vol. xiii, No. 2, October 1956. Pages 21-23.
"A student should interpret his deferment as a sacred trust, not as a right but as a privilege granted in order that he might become a more useful citizen to himself and to his Nation.'"

Taylor, George Rogers. "Teaching the Art of Decision-Making." *Journal of General Education,* Vol. VIII, No. 4, July 1955. Pages 254-260.
"Not to impart the teacher's 'right' answers but to afford the student practice in the democratic process of individual decision-making."

Tead, Ordway. "The Problem of Equality in Higher Education." *Journal of Higher Education,* Vol. XXVII, No. 1, January 1956. Pages 1-7, 54-55.
Ways and means of directing effort wisely toward the equalitarian goal.

W. W. B. "Educational Controversy and Creative Thinking." *School and Society,* Vol. 82, No. 2071, October 29, 1955. Pages 141-142.
"Educational controversy is necessary to keep the thinking process alive."

Wahlquist, John T. "Calling *New* College Teachers." *Educational Forum,* Vol 20, No. 2, January 1956. Pages 215-218.
"Too many professors go on talking themselves to death when they should be employing informal teaching techniques."

Weinberg, Philip. "The Young Engineering Teacher." *Journal of Engineering Education.* Vol. 46, No. 4, December 1955. Pages 363-365.
"A trained cadre of young teachers, perhaps obligated to conduct institutional seminars, can cause a diffusion of ideas and techniques."

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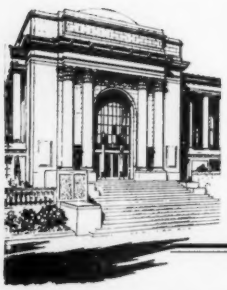

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